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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/608,964

06/30/2000

Kiwamu Takehisa

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7590

08/29/2002

VARNDELL & VARNDELL, PLLC  
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EXAMINER

DIAZ, JOSE R

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 08/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n N .

Applicant(s)

09/608,964

TAKEHISA ET AL.

Examiner

Art Unit

José R Díaz

2815

-- Th MAILING DATE of this communication appears on the cover sheet with th correspondence address --

**Peri d f r Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 June 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

- The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the pressure" in line 7. There is insufficient antecedent basis for this limitation in the claim. Furthermore, claims 2-7 are rejected due their dependency on claim 1.

Claim 4 recites the limitation "said two electrodes" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "the discharging mode" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "the optical axis" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the power" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the discharging mode" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the optical axis" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "said two electrodes" in line 10. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

➤ The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

➤ Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Ershov et al. (US Patent No. 6,381,257 B1).

Regarding claim 1, Ershov et al. teach a fluorine laser (see cols. 1-32) comprising: a laser chamber (see Figure 6, 6A-6D) which is filled with a laser gas including fluorine (see col. 5, lines 16-21 and col. 28, lines 37-65) and to which a predetermined discharge voltage is applied between a cathode (18, 50, 70) and an anode (18, 20) thereof for causing a fluorine laser to oscillate laser light to be supplied as an exposure light source of an exposure apparatus (see Figures 5A-5M), wherein the pressure of said laser is set equal to or lower than a predetermined value such that a

bandwidth of laser light oscillated by said laser chamber is narrowed to a desired value (see Fig. 21B).

Regarding claim 2, Ershov et al. teach that the bandwidth is narrowed within the range from 0.2-0.3 pm (see Fig. 21B).

° Regarding claim 3, Ershov et al. teach that the pressure of said laser gas is set equal to or lower than 1 atm (see Fig. 21B and col. 28, lines 37-65).

Regarding claim 4, Ershov et al. teach that the interval between the cathode and the anode is set at a predetermined length (see Figs. 5A-5M).

Regarding claim 5, Ershov et al. teach that the discharging mode for said discharge is a longitudinal discharge (see Figs. 5C-5E).

Regarding claim 6, Ershov et al. teach that the discharging mode further comprises an oscillator (see Figs. 5A-5M) and an amplifier (see col. 8, lines 21-61).

Regarding claim 7, Regarding claim 5, Ershov et al. teach that the discharging mode for said discharge is a transverse discharge (see Figs. 5A-5B).

➤ Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Gong et al. (US Patent No. 6,240,117 B1).

Regarding claim 1 Gong et al. teach a fluorine laser (see cols. 1-12) comprising: a laser chamber (see Figs 4-5 and 8-9) which is filled with a laser gas including fluorine (see Abstract and col. 1, lines 14-35) and to which a predetermined discharge voltage is applied between a cathode (4) and an anode (4) thereof for causing a fluorine laser to oscillate laser light to be supplied as an exposure light source of an exposure apparatus (see Figs. 4-5 and 8-9), wherein the pressure of said laser is set equal to or lower than

a predetermined value such that a bandwidth of laser light oscillated by said laser chamber is narrowed to a desired value (see Fig. 7).

Regarding claim 2, Gong et al. teach that the bandwidth is narrowed to less than about 0.6 pm (see Fig. 7).

Regarding claim 3, Gong et al. teach that the pressure of said laser gas is set equal to or lower than 1 atm (see Fig. 7).

Regarding claim 4 Gong et al. teach that the interval between the cathode and the anode is set at a predetermined length (see Figs. 4-5 and 8-9).

Regarding claims 5 and 7, Gong et al. teach that the discharging mode for said discharge is either a longitudinal or a transverse discharge (see Figs. 4-5 and 8-9 and col. 9, lines 7-22).

Regarding claim 6, Gong et al. teach that the discharging mode further comprises an oscillator (6) and an amplifier (30) (see Figs. 4-5 and 8-9).

### ***Conclusion***

➤ The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references teach a fluorine laser Govorkov et al. (US Pat. No. 6,327,290 B1), Besaucele et al. (US Pat. No. 6,188,710 B1), Kleinschmidt et al. (US Pat. No. 6,421,365 B1 and 6,345,065 B1) and Ohmi et al. (US Pat. No. 6,331,994 B1).

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to José R Díaz whose telephone number is (703) 308-

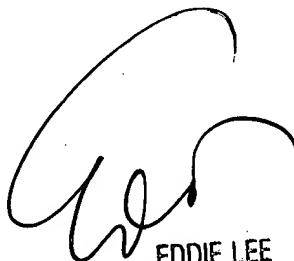
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6078. The examiner can normally be reached on 9:00-5:00 Monday, Tuesday, Thursday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 746-3891 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JRD  
August 26, 2002



EDDIE LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800